

AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) An apparatus comprising:

a first processing circuit configured to generate a plurality of reconstructed samples in response to one or more macroblocks of an input signal; and

5 a second processing circuit configured to individually determine a ~~unique~~ intra prediction DC predictor for each chroma sub-block of a current macroblock, wherein (A) each of said intra DC predictors are (i) generated in response to one or two of four adjacent reconstructed samples when four adjacent reconstructed
10 samples are available, (ii) generated in response to one or two samples when two adjacent reconstructed samples on the same edge are available and otherwise (iii) individually generated in response to one or two available reconstructed samples adjacent to
said current macroblock, said one or two available reconstructed
15 samples are vertically aligned with or horizontally aligned with each chroma sub-block and (B) each of said adjacent reconstructed samples are reconstructed from pixel samples.

2. (ORIGINAL) The apparatus according to claim 1, wherein said second processing circuit is implemented in a decoding loop of an encoder.

3. (ORIGINAL) The apparatus according to claim 1, wherein said first and said second processing circuits comprise a decoder.

4. (ORIGINAL) The apparatus according to claim 1, wherein said apparatus comprises an H.264 compliant decoder.

5. (ORIGINAL) The apparatus according to claim 1, wherein said second processing circuit comprises:

an intra prediction circuit configured to generate an intra predicted chroma sub-block in response to one of said
5 predictors.

6. (ORIGINAL) The apparatus according to claim 5, wherein said second processing circuit further comprises:

a control circuit configured to generate said intra prediction DC predictor for each of said chroma sub-blocks in
5 response to said reconstructed samples.

7. (ORIGINAL) The apparatus according to claim 6, wherein said control circuit is further configured to determine a position of a top edge and a left edge of a chroma block of said current macroblock.

8. (CURRENTLY AMENDED) The apparatus according to claim 7, wherein ~~(i)~~ said reconstructed samples comprise a plurality of reconstructed samples in a row adjacent to said top edge of said chroma block.

9. (CURRENTLY AMENDED) The apparatus according to claim 7, wherein ~~(i)~~ said reconstructed samples further comprise a plurality of reconstructed samples in a column adjacent to said left edge of said chroma block.

10. (ORIGINAL) The apparatus according to claim 9, wherein said control circuit is further configured to sum each group of reconstructed samples adjacent to an edge of one of said chroma sub-blocks.

11. (ORIGINAL) The apparatus according to claim 9, wherein said control circuit is further configured to indicate whether a particular sum of reconstructed samples is available.

12. (CURRENTLY AMENDED) An apparatus comprising:
means for generating a plurality of reconstructed samples in response to one or more macroblocks of an input signal; and
means for individually determining a ~~unique~~ intra
5 prediction chroma mode 0 predictor for each chroma sub-block of a

current macroblock, wherein (A) each of said chroma mode 0 predictors are (i) generated in response to one or two of four adjacent reconstructed samples when four adjacent reconstructed samples are available, (ii) generated in response to one or two samples when two adjacent reconstructed samples on the same edge are available and otherwise (iii) individually generated in response to one or two available reconstructed samples adjacent to said current macroblock, said one or two available reconstructed samples are vertically aligned with or horizontally aligned with each chroma sub-block and (B) each of said adjacent reconstructed samples are reconstructed from pixel samples.

13. (CURRENTLY AMENDED) A method for intra prediction of a chroma sub-block comprising the steps of:

(A) generating a plurality of reconstructed samples in response to one or more macroblocks of an input signal; and

(B) determining a ~~unique~~ intra prediction chroma mode 0 predictor for each chroma sub-block of a current macroblock individually, wherein (A) each of said chroma mode 0 predictors are (i) generated in response to one or two of four adjacent reconstructed samples when four adjacent reconstructed samples are available, (ii) generated in response to one or two samples when two adjacent reconstructed samples on the same edge are available and otherwise (iii) individually generated in response to one or

two available reconstructed samples adjacent to said current macroblock, said one or two available reconstructed samples are vertically aligned with or horizontally aligned with each chroma sub-block and (B) each of said adjacent reconstructed samples are reconstructed from pixel samples, generating a compressed and encoded video bit stream using the determined predictor to reduce spatial redundancy.

14. (CURRENTLY AMENDED) The method according to claim 13, wherein the step (B) further comprises:

generating said ~~unique~~ intra prediction chroma mode 0 predictor for each chroma sub-block of a current macroblock in response to a sum of said available reconstructed samples adjacent to each of said chroma sub-blocks of said current macroblock.

15. (CURRENTLY AMENDED) The method according to claim 13, wherein:

said ~~unique~~ intra prediction chroma mode 0 predictor for each chroma sub-block of a current macroblock is selected independently in response to said available reconstructed samples adjacent to said current macroblock.

16. (ORIGINAL) The method according to claim 13, further comprising:

generating said reconstructed samples by inverse quantizing and inverse transforming a compressed bitstream.

17. (ORIGINAL) The method according to claim 13, further comprising:

using a predetermined value for said predictor when no sums are available.

18. (ORIGINAL) The method according to claim 17, wherein said predetermined value comprises a median chroma value.

19. (ORIGINAL) The method according to claim 17, wherein said predetermined value is set to 128.

20. (CURRENTLY AMENDED) The method according to claim 14, wherein each of said ~~unique~~ intra prediction chroma mode 0 predictor for each chroma sub-block of a current macroblock comprises a weighted average of one or more corresponding sums.